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HL

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/598,457	02/08/96	CURRY	J 414.013

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EXAMINER

MEI, X

ART UNIT	PAPER NUMBER
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2743

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DATE MAILED: 06/26/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/598,457

Applicant(s)
Curry et al.

Examiner
Xu Mei

Group Art Unit
2743



☒ Responsive to communication(s) filed on Apr 2, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-27 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-27 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claims 15-18, 24-26, 19-23 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Kinoshita et al. (US Patent 5,734,724, hereafter, Kinoshita).

Regarding claims 15-18, 24-27, Kinoshita teaches a spatial sound conference bridge or spatial sound conference system which comprising at least two input port for receiving two audio signals (terminals TM-1 to TM-M are transmitting station and receiving station individually, L and R signals), a head-related transfer function (HRTF) unit (Fig. 2 and 17 are imparted into the conference system with HRTF for signal processing) connected to the two input ports for imparting a HRTF at least one audio signal to produce at least one spatialized audio signal; and at least two output ports or output loudspeakers for each receiving terminal for receiving output audio signal (53R and 53L of Fig. 7, audio output headset in Fig. 8, or 14 etc. are left and right spatially disposed output loudspeakers) connected to the HRTF for

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transmitting the spatialized audio signal. Audio compression and decompression units are inherently provided by Kinoshita for audio signal processing.

3. Method claims 19-23 and 27 are rejected for the same reasoning as set forth for the rejection of various apparatus claims 15-18, and 24-26 since the apparatus claims perform the same functions as the method claims.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita in view of Tanaka et al. (US Patent 5,598,478, hereafter, Tanaka'478).

Regarding claims 1, 5-7, 9, and 12, What's not teach in Kinoshita is the audio receiving microphone (each terminal has its audio signal receiving microphone such as show in Fig. 8 or 14 etc.) is right and left spatially disposed microphones for

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receiving right and left audio signals with a difference between the right and left audio signals represent a HRTF (head-related transfer function).

Conventional stereophonic sound recording and reproducing with left and right spatially disposed microphones for obtaining spatial audio signals and left and right spatially disposed loudspeakers for reproducing spatial audio signals related to HRTF with spatially disposed microphone mounting to a dummy head is old and well known in the art. Tanaka'478 clearly teaches conventional acoustic signal reproducing apparatus with left and right spatially disposed microphones for obtaining spatial audio signals and left and right spatially disposed loudspeakers for reproducing spatial audio signals related to HRTF with spatially disposed microphone mounting to a dummy head and a difference between the right and left audio signals represent a HRTF (see Col. 1, line 23-Col. 3, line 12 and Figs. 17 and 19 with dummy head recording). It would have been obvious to one of ordinary skill in the art to use an conventional acoustic signal reproducing apparatus taught by Tanaka'478 for the conference system taught by Kinoshita in order to provide more realistic spatial input audio signals and create a realistic three dimensional aural impression for the conferees.

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Regarding claims 2-4, audio compression and decompression units are inherently provided by Kinoshita for audio signal processing.

Regarding claim 8, Tanaka'478 clearly shown in Figs. 20-21 the different positions measurement of the audio signal relating to the dummy head. It would have been obvious for one of ordinary skill in the art to used a head-tracking sensor and a position simulator for accurate HRTF measurement of the audio signal related to the dummy head.

Regarding claims 10-11, optimal positioning of the video camera and display would have been obvious to one of ordinary skill in the art in order to provide conferees with the best video signal caption and display.

6. Method claims 13-14 are rejected for the same reasoning as set forth for the rejection of various apparatus claims 1-2 since the apparatus claims perform the same functions as the method claims.

7. Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection.

8. **Any response to this action should be mailed to:**

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Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 305-9508 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II,
2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xu Mei whose telephone number is (703) 308-6610.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.


xm

06/19/1998


CURTIS A. KUNTZ
SUPERVISORY PATENT EXAMINER
GROUP 2700